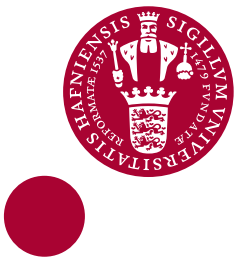

Work less and sleep more!

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T3:RS4 – Mechanisms of Action of Bariatric Surgery

T3:RS4.2
Bariatric surgery for the treatment of type II diabetes in mild obesity

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There has been an increasing global interest in the use of bariatric surgery for the treatment of severely obese patients with type 2 diabetes. While substantial sustained weight loss in improving aspects of diabetes would be expected, there is growing evidence that some bariatric surgical procedures provide effects on glycemic control beyond weight loss. Surgical alterations to the GI tract, often minor, provide substantial weight loss but the mechanisms involved are poorly understood. All effective 'weight loss' surgery involves some changes to the stomach just distal to the gastro-esophageal junction. In addition, some diversionary techniques that bypass areas of the GI tract or deliver contents prematurely to the distal gut have effects on glycemic control in those with diabetes that appear to be independent of weight loss. There are several mechanisms proposed for the non-weight loss glycemic control effect with enetroendocrine 'L' cell stimulation a leading contender. There is now clear evidence of a markedly enhanced incretin effect associated with raised GLP-1 concentrations. The possibility that weight loss and improved glycaemia are independent may allow the development of surgery as a treatment for type 2 diabetes in those not needing major weight loss. Guidelines suggest that bariatric surgery be restricted to those with Class 111 obesity or Class 11 obesity in association with a serious comorbidity such as Type 11 diabetes. The case for those with Class 1 obesity and diabetes will be explored with respect to current evidence base, safety profile of the various procedures and risk-benefit to patients.

Conflict of interest: Dr Dixon reports consultancies with Allergan Inc, Bariatric Advantage and Scientific Intake. He serves on the Optifast medical advisory board (Nestle Australia), the diabetes advisory board for Allergan Inc and the medical advisory board for Bariatric Advantage. He is/has been on speakers' bureaus for Abbott Australasia, Allergan Inc, Bariatric Advantage, Eli Lilly Australia, Merck Sharp & Dohme Australia, Nestle Australia and Roche Products Australia.

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T3:RS5 – Strategies and Pitfalls in Obesity Treatment

T3: RS5.1
Does obesity management impact significantly on morbidity?

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Given the unequivocal association between a wide range of morbidity and increasing adiposity, advice to lose weight is the obvious therapeutic measure for those who are overweight or obese. However, several observational studies suggest that intentional weight loss may at least in some circumstances be associated with increased morbidity and mortality. In some settings, the findings are more reassuring than others. Among those at risk of diabetes, randomised controlled trials (RCTs) have shown that lifestyle interventions resulting in weight loss can reduce progression of type 2 diabetes over a prolonged period and quasi-experimental studies that in the morbidly obese, bariatric surgery can similarly reduce risk of progression or even normalisation of blood glucose in those with type 2 diabetes. Limited observational data suggest some prolongation of survival time in those with diabetes who have lost weight compared with those who have not. The findings in observational studies that overweight patients with established coronary heart disease, heart failure and hypertension have a better prognosis than those who are not overweight or obese has been a cause of concern. This paradox can be explained by the effects of unintentional weight loss or pre-existing disease but plausible mechanisms have been suggested. The issue can only be fully resolved by RCTs and investigations such as the Swedish obese subjects study which has already demonstrated that those who have had bariatric surgery have improved mortality from myocardial infarction and cancer over a 10-year period compared

of evidence currently available
ation that most overweight and
ose weight.

T3:RS5.2
Work less and sleep more!

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Intellectual work promotes overconsumption of food Mental work has progressively replaced physical work and has become an important modality of human activity in the context of economic competitiveness and globalization. With the advent of computers and new technologies, the pendulum has swung far in the direction of excessive mental activities, as opposed to excessive physical activities. However, a careful examination of computer-related activities reveals that they represent a particular type of sedentary activities; they are stressful and biologically demanding for the body. Recent experimental studies have shown that computer-related activities promote an up-regulation of appetite-stimulating hormones and increase spontaneous food intake. These observations suggest that mental workload adds a new component to the notion of 'sedentariness', by increasing the positive energy balance that is more likely to occur when one is inactive.

Short sleep duration increases appetite Sleep curtailment, be it behavioural or related to sleep disorders, is a common condition in contemporary society and has been shown to be linked to obesity and weight gain in numerous epidemiological studies. Recent well-controlled experimental studies have shown that short-term partial sleep restriction leads to striking alterations in metabolic and endocrine functions, including decreased leptin levels, increased ghrelin levels, and increased hunger and appetite. Short sleep duration might increase the risk of becoming obese, because it does not allow the recovery of a hormonal profile facilitating appetite control. Lack of sleep could also lead to weight gain and obesity by increasing the time available to eat and by making the maintenance of a healthy lifestyle more difficult. Furthermore, the increased fatigue and tiredness associated with sleeping too little could lessen one's resolve to follow exercise regimens. Future research is needed to definitively rule out reverse causation and determine whether interventions aimed at increasing sleep in at-risk individuals may be useful in combating obesity.

Conflict of interest: None disclosed.

T3:RS5.3
Social/economic reasons for failure of obesity reduction: a case for cleaning out the mineshaft, rather than trying to resuscitate the canary

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Canaries were used in 19th century mineshafts to warn, by their sudden demise, of noxious gas emissions. An analogy can be drawn